(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
27 June 2002 (27.06.2002)

PCT

(10) International Publication Number
WO 02/49728 A1

(51) International Patent Classification[7]: A63C 9/00

(21) International Application Number: PCT/SI01/00025

(22) International Filing Date: 1 October 2001 (01.10.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
P-200000322 19 December 2000 (19.12.2000) SI

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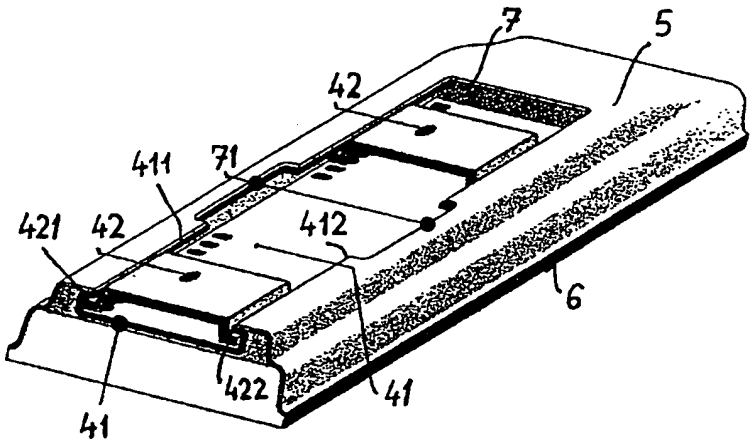
(81) Designated States *(national)*: AE, AL, AM, AT, AT (utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (utility model), DE, DE (utility model), DK, DK (utility model), DM, EE, EE (utility model), ES, FI, FI (utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SKI OR SIMILAR SKATING REQUISITE WITH INCORPORATED ASSEMBLY FOR ADJUSTABLE ATTACHING A SKI BINDING



(57) Abstract: The aim of the present invention is to improve a ski or similar skating requisite in such manner, that a ski binding being necessary for establishing appropriate connection between the said ski and a ski boot, could be attached to the said ski quickly, simply and firmly and also without any comprehensive steps, e.g. drilling bores or similar, and moreover, that quickly and simply and also regularly - with respect to physical and geometrical requirements - adjustment, displacement or even removing and subsequently mounting as well as replacement of the ski binding in situ would be possible, i.e. in the store, at home or even in the ski-field, but in each case without any need on assistance of professionals skilled in mounting ordinary ski bindings to the skis. Such ski or similar skating requisite comprises a sliding surface (6) faced towards the ground, and moreover several main areas, namely the forward area (1) with a bended tip (11), the rearward area (2) i.e. the tail, and the central area (3). According to the invention, an incorporated positioning-attachment assembly (4) of a binding, especially ski binding, in is foreseen its central area (3). The said assembly (4) comprises at least one guide (41, 41', 41"), which is placed within the ski, and moreover at least one slider (42, 42', 42") which may be placed into the said guide(s) (41, 41', 41") and moved thereafter in the longitudinal direction of the ski and also firmly arrested in each desired position.

WO 02/49728 A1

The aim of the present invention is to improve a ski or similar skating requisite in such manner, that a ski binding being necessary for establishing appropriate connection between the said ski and a ski boot, could be attached to the said ski quickly, simply and firmly and also without any comprehensive steps, e.g. drilling bores or similar, and moreover, that quickly and simply and regularly - with respect to physical and geometrical requirements - adjustment, displacement or even removing and subsequently mounting as well as replacement of the ski binding *in situ* would be possible i.e. in the store, at home or even in the ski-field, but in each case without any need on assistance of professionals like in case of mounting ordinary ski bindings.

As known to those skilled in the art, modern ski bindings generally consist of a forward part and a rearward part. Each of these parts may be mounted onto the top surface of a ski, and after that, both parts together enable attaching a ski shoe onto the ski. Attachment of these parts onto the ski may be realized by means of appropriate screws, which may be screwed into the ski upon drilling appropriate bores. During the skiing, the screws are exposed to essential tensioning, and may consequently often be at least partially loosen or even pulled out. After being pulled out, screwing the screw into the same bore is quite aimless, while drilling the additional bores located in adjacency results in certain change of position of the ski binding on the ski, which means a step away from the optimum physical and geometrical conditions, and consequently more difficult or irregular skiing.

In order to prevent the screws from being loosened, certain solutions are known in the prior art. One of them is published in the WO 91/12860. In accordance with this solution, a metal plate is mounted inside the ski during the process of manufacturing thereof, and appropriate bores are drilled into the said plate which have to be adapted for receiving appropriate screws. Incorporation of the said plate certainly has some influence with

available. Again, assistance of a skilled professional is unavoidable, by which the bores are drilled in a conventional manner, and the screws are screwed thereto, which is then naturally connected with certain risk in course of pulling out the screws. Besides, previously used bores remain more or less visible on the top surface of the ski.

It often also happens, that users have to substitute their ski shoes. Especially by young skiers it may even happen before starting each ski-season. Although the ordinary ski binding are equipped by at least one attaching part (the forward one or the rearward one) which in parallel to attachment onto the ski also enables at least limited displacement along the top surface of the ski. However, due to displacing e.g. the heel part of the ski binding rearwards, the actual location of loading the ski result from the weight as well as of the activity of the skier is also displaced with respect to the center of gravity of the ski, which also means an essential step away from achieving optimum physical and geometrical conditions. It may also happen that the existing limited displacement is insufficient to enable attachment of the substituted ski shoe onto the ski. This also involves substitution or at least displacement of at least a part, i.e. either the forward one or the rearward one, of the ski binding.

In most cases, the person who just bought the ski or any similar skating requisite together with an appropriate binding, would commonly prefer avoiding any further problems related to mounting the bindings onto the ski or a similar skating requisite, especially when any further substitution, e.g. of a ski shoe, is planned in the future, or also, when such ski or skating requisite should be used also by any other person. It is therefore obvious, that mounting the ski binding without any drilling would be desired.

All the aforementioned deficiencies and inconveniences may be avoided in a surprisingly elegant manner thanks to a ski or similar skating requisite with incorporated assembly for

on the top surface in the central area of the ski. By this, the said cutout is equipped by at least one widened portion adapted for inserting the slider into the guide.

By the further one of possible embodiments, two guides are incorporated inside the ski, being arranged separately in certain distance each from another and simultaneously in aligned position each to other, and within each of them a single slider is inserted, which can be moved by means of the corresponding guide along the cutout which is available on the top surface in the central area of the ski. In this case, the said cutout is equipped by at least one widened portion adapted for inserting the slider into the guide.

By still another possible embodiment, a passage is arranged between at least two of the corresponding sliders which is foreseen for receiving a suitable means for enabling connection and correlation between the sliders and consequently between the forward part and the rearward part of the ski binding. The said passage may either be arranged under the surface of the ski, preferably as a hole or an opening extending in the longitudinal direction of the ski, or also on the surface of the ski, preferably as a groove or a channel extending in the longitudinal direction of the ski.

By still another embodiment there is a possibility that the central area of a ski or a similar skating requisite equipped by an elevated platform, is saddle-formed, so that between the elevated areas of the central area a lower intermediate area is available, by which within each of the both elevated areas of the central area of a ski equipped by appropriate elevated platform, a positioning-attachment assembly is arranged, which consists of at least one guide extending in the longitudinal direction of the ski, as well as of at least one slider placed within the said guide. By this, the said platform is preferably the so-called integrated platform, i.e. such one, which is integrated within the ski and is actually a part

As known to those skilled in the art, a ski is anticipated to be an elastic bending beam, by which the height or thickness the central area 3 thereof is greater as the height or thickness of its forward area 1 or rearward area 2. According to the present invention, at least one positioning-attachment assembly 4 of a ski binding is incorporated in the central area 3 of the ski, and arranged on the top surface of the ski, namely on the side which is faced away from the ground.

The said positioning-attachment assembly 4 is conceived in such manner that at the one hand, thanks to its parts which are incorporated into the ski, enables attaching both, the forward part a d the rearward part i.e. the heel unit the ski binding onto the ski, and on the other hand thanks to its movable parts, it also enables moving of the parts of a ski binding in both directions, i.e. forwards and rearwards, by which a firmly fixation thereof in certain position is also foreseen.

Positioning-attachment assembly comprises at least one part, which is incorporated into the ski, i.e. of a guide 41, as well as at least one slider 42 which is placed within the said guide 41 and is movable in the longitudinal direction of the ski and can moreover be fixed in a desired position. Accordingly, each positioning-attachment assembly 4 is formed by means of a desired combination of the slider 42 and guide(s) 41, by which at the one hand the said assembly is no doubt a constituent part of a ski binding, but is also incorporated or integrated into the ski itself on the other hand.

The guide 41 of the assembly 4 may consist of metal or plastics and is commonly built into the ski already during manufacturing the ski, for example either during adhesion of constituent parts of the ski or also later-on, during finishing the ski, or also both, during adhesion and during finishing the ski. The guide 41 is preferably manufactured as a C-profile or similar profile. In common, each slider 42 may be inserted into each guide 41

arresting elements (not shown) which should be available on each slider 42 in order to be put into engagement with the said holes when desired. Furthermore, appropriate cutout 7 is foreseen in the top surface of the ski in the area of the said guide 41, along which the said slider 42 may be moved, and by the embodiment in accordance with Fig. 3, the said cutout 7 moreover comprises a widened portion 71, through which the said slider 42 may be inserted into the said cutout 7 and into the said guide 41, consequently.

Another embodiment of the ski is shown in Fig. 3 and 4, which is characterized by a saddle-shaped top surface of the central area 3 of the ski, which is faced away from the ground or the sliding surface 6 of the ski. This means that the elevated central area 3 of the ski, which is in this case again obtained by integration a platform 5, is interrupted and consists of two elevated areas as well as of an intermediate area 50, the height of which approximately corresponds to ordinary height of a non-elevated ski in its central area 3. By this embodiment, the positioning-attachment assembly 4 for ski binding can be realized in some different manner (Fig. 6), namely with two guides 41', 41" and two sliders 42', 42", by which a single slider 42', 42" is inserted within each belonging guide 41', 41". The concept of guides 42', 41" and sliders 42', 42" may essentially correspond to those as described before in connection with Fig. 1 - 3. Although in the discussed case the arresting means are not separately shown, it should be noted that also in this embodiment the sliders 42', 42" are inserted into the guides 41', 41" and may be moved in the longitudinal direction forwards and rearwards along the cutouts 7', 7", and moreover also that they can be firmly arrested in the desired position.

A further embodiment of the positioning-attachment assembly 4 is shown in Fig. 7, which might belong e.g. to the ski according to Fig. 1 and 2, and which comprises two guides 41', 41" being arranged separately on certain distance each from another but at the same time in aligned position with respect to each other in the longitudinal direction of the ski, by which a single slider 42', 42" is inserted into the corresponding guide 41', 41". The

the sliders 42, 42', 42". By this, there is no need e.g. on drilling any bores into the ski or performing any other measures beyond the resources available to an average user or his common knowledge. If desired, the ski binding which has already been adjusted into appropriate position, may also be displaced to any other position, which can be achieved by simply releasing the sliders 42, 42', 42" and displacing thereof in the longitudinal direction of the ski, and then arresting them in any other desired position.

whereby the said guide (41, 41', 41") in its preferred embodiment is conceived as a C-profile, and consequently, the slider (42, 42', 42") is conceived as a plate with bended or cracked peripheral longitudinal areas, so that the bended areas (421, 422) of the slider (42, 42', 42") may be placed beneath the shanks (411, 412) of the said C-profile-shaped guide (41, 41', 41").

4. Ski or similar skating requisite according to claim 1, characterized in that, a guide (41) is incorporated within the ski, in which two sliders (42', 42") are inserted and may be moved by means of the said guide (41) along a cutout (7) which is available on the top surface in the central area (3) of the ski.

5. Ski or similar skating requisite according to claim 4, characterized in that the cutout (7) is equipped by at least one widened portion (71) adapted for inserting the slider (42) into the guide (41).

6. Ski or similar skating requisite according to claim 1, characterized in that, two guides (41) are incorporated inside the ski, being arranged separately in certain distance each from another and simultaneously in aligned position each to other, and within each of them a single slider (42', 42") is inserted, which can be moved by means of the corresponding guide (41) along the cutout (7) which is available on the top surface in the central area (3) of the ski.

7. Ski or similar skating requisite according to claim 6, characterized in that the cutout (7) is equipped by at least one widened portion (71) adapted for inserting the slider (42) into the guide (41).

formed, so that between the elevated areas (5', 5") of the central area (3) a lower intermediate area (50) is available.

14. Ski or similar skating requisite according to claim 12, characterized by that within each of both elevated areas (5', 5") of the central area (3) of a ski equipped by appropriate elevated and integrated platform (5), a positioning-attachment assembly is arranged, which consists of at least one guide (41) extending in the longitudinal direction of the ski, as well as of at least one slider (42) placed within the said guide (41).

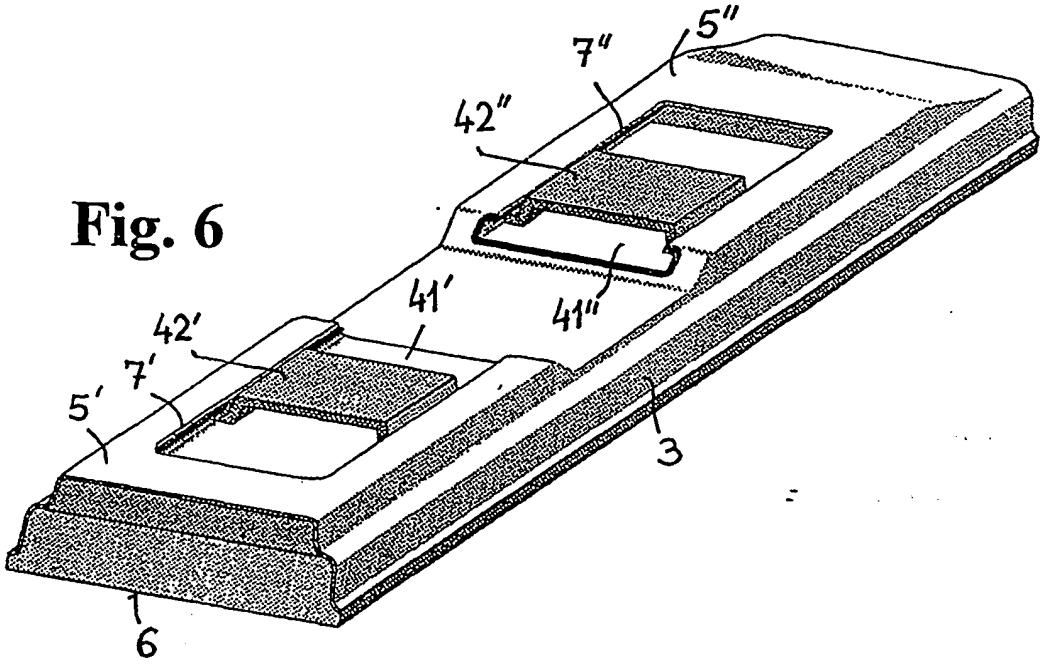


Fig. 6

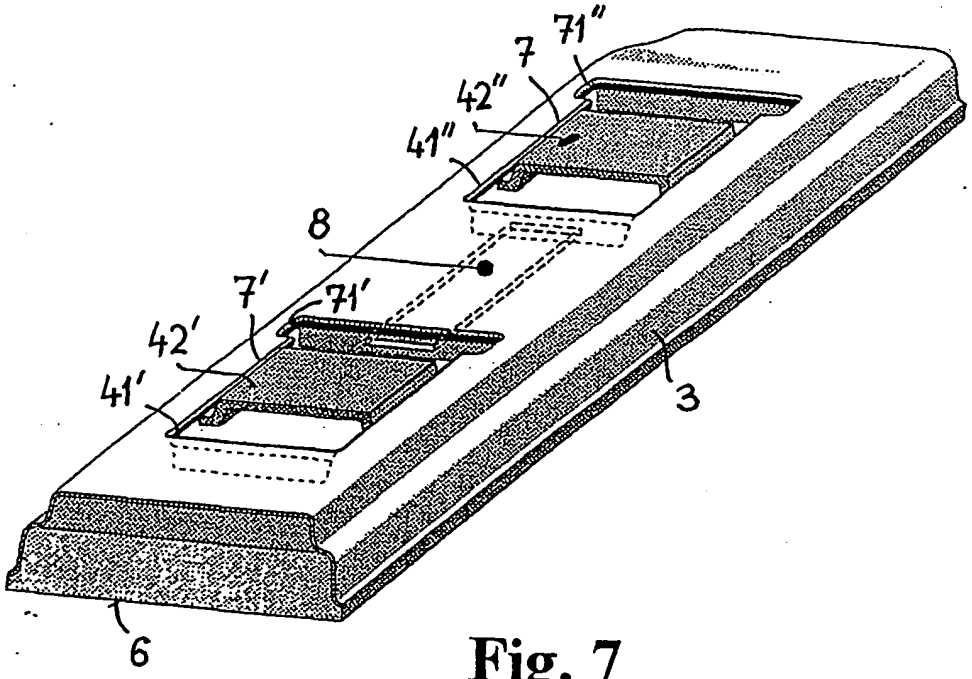


Fig. 7

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 056 809 A (BRISCHOUX ET AL.) 15 October 1991 (1991-10-15) figures	1
A	FR 1 307 982 A (SALOMON) 3 November 1962 (1962-11-03) figures	1

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